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PRE-APPEAL BRIEF REQUEST FOR REVIEW

Docket Number (Optional)

1035-561

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Application Number

10/520,928

Filed

January 11, 2005

First Named Inventor

IZUMI

Art Unit

2814

Examiner

Kunzer, B.

Applicant requests review of the final rejection in the above-identified application. No amendments are being filed with this request.

This request is being filed with a notice of appeal.

The review is requested for the reason(s) stated on the attached sheet(s).

Note: No more than five (5) pages may be provided.

I am the

☐ Applicant/Inventor

☐ Assignee of record of the entire interest. See 37 C.F.R. § 3.71. Statement under 37 C.F.R. § 3.73(b) is enclosed. (Form PTO/SB/96)

☒ Attorney or agent of record 34,725
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☐ Attorney or agent acting under 37CFR 1.34.

Registration number if acting under 37 C.F.R. § 1.34 _____

Signature

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Typed or printed name

703-816-4029

Requester's telephone number

October 16, 2006

Date

NOTE: Signatures of all the inventors or assignees of record of the entire interest or their representative(s) are required. Submit multiple forms if more than one signature is required, see below.*

☒ *Total of 1 form/s are submitted.

This collection of information is required by 35 U.S.C. 132. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11, 1.14 and 41.6. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Mail Stop AF, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of

IZUMI

Atty. Ref.: 1035-561; Confirmation No. 4954

Appl. No. 10/520,928

TC/A.U. 2814

Filed: January 11, 2005

Examiner: Kunzer, B.

For: PHOTOELECTRIC CONVERSION DEVICE AND IMAGE SCANNING APPARATUS

* * * * *

October 16, 2006

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

PRE-APPEAL BRIEF REQUEST FOR REVIEW

Pursuant to the OG Notice of July 12, 2005, applicants hereby request a pre-appeal brief review of this case for at least the following reasons. This Request accompanies a Notice of Appeal.

Remarks begin on page 2.

REMARKS

Claims 1-8 and 14-33 are pending in this application. Claims 22-33 have been withdrawn from consideration.

Claims 1, 2, 5, 6, 8, 14, 15 and 17 were rejected under 35 U.S.C. Section 102(e) as allegedly being anticipated by Choo et al. (U.S. Patent No. 6,617,584).

The final office action alleges that Choo et al. discloses the photoelectric conversion devices set forth in independent claims 1 and 2. Specifically, the office action alleges with reference to Figure 7 of Choo et al. that first protective layer 68 and organic insulating layer 72 of Choo et al. correspond to the claimed first insulating layer; gate electrode 56, source electrode 58, drain electrode 60 and active layer 64 of Choo et al.'s TFT correspond to the claimed photoelectric conversion element; and first auxiliary electrode 90 of Choo et al. corresponds to the claimed connection electrode. Contact hole 78a of Choo et al. is alleged to correspond to the claimed opening portion and transparent electrode 80 of Choo et al. is alleged to be connected to the first auxiliary electrode via the contact hole 78a.

Applicant respectfully submits that there is no disclosure in Choo et al. that the TFT which includes gate electrode 56, source electrode 58, drain electrode 60 and active layer 64 is a photoelectric conversion element as alleged in the office action. Specifically, in Choo et al., X-rays are converted to electron-hole pairs by a selenium layer. See, e.g., Choo et al., col. 1, lines 30-32 (The photo sensitive layer 4 made from a selenium with a thickness of hundreds of μm detects an incident X-ray to convert it into an electrical signal.")(emphasis added). The electron-hole pair is separated using a high voltage and the holes charge a pixel electrode 34, as shown in Figure 1 and as described in column 1, lines 21-40 of Choo et al. The TFT shown in Figure 1 is simply to discharge the capacitor to the data line in accordance with a gate signal. See Choo et al., col. 1, lines 39-41. Consequently, contrary to the assertion in the office action, none of the elements in Figure 7 of Choo et al. can be said to constitute a photoelectric conversion element. In particular, elements 58, 64, 56 and 60 do not constitute a photoelectric conversion element.

Even assuming a selenium layer is present and is argued to constitute a photoelectric conversion element, it is clear from a comparison of the pixel electrode 34 in Figures 1 and 3 of Choo et al. that the device portion shown in Figure 3 is positioned below the photosensitive selenium layer. Similarly, by comparing Figures 3 and 7, it is clear that the device portion

shown in Figure 7 of Choo et al. would also be positioned below a selenium layer.

Consequently, first protective layer 68 and organic insulating layer 72 of Choo et al. cannot correspond to the first insulating layer of claims 1 and 2 because the first insulating layer of these claims is required to cover the photoelectric conversion element.

Applicant notes that Figure 1 of Choo et al. shows a dielectric layer 6 above selenium layer 4. However, there is no disclosure of an opening portion in this dielectric layer as required by claim 1 or of an exposing portion of this dielectric layer that exposes at least a part of a connection electrode as required by claim 2.

For at least these reasons, Choo et al. cannot anticipate claim 1 or claim 2. Claims 5, 6 and 8 depend from claim 1 and claims 14, 15 and 17 depend from claim 2. These dependent claims likewise cannot be anticipated by Choo et al.

The Advisory Action suggests that Choo et al.'s TFT is an "essential" element in the photoelectric conversion process that converts a light signal into charge readable information. However, photoelectric conversion merely involves converting light into charge (see, e.g., Choo et al., col. 1, lines 30-32) and the added requirement in the Advisory Action about "readable information" appears to be an attempt to justify the characterization of Choo et al.'s TFT as an essential element in the photoelectric conversion process. The TFT of Choo et al. performs no part in the conversion of a light signal into charge and thus does not constitute a photoelectric conversion element. As noted above, the conversion of light into charge in Choo et al. is performed by photosensitive layer 4. The TFT of Choo et al. merely controls when charge produced by the photosensitive layer is output to a data line. In this sense, contrary to the assertion in the Advisory Action, the TFT of Choo et al. is not even essential for information to be readable, because an arrangement is conceivable in which information can be read continuously.

Moreover, even assuming for the sake of argument (without in any way agreeing) that Choo et al.'s TFT is considered to be part of the photoelectric conversion process, the layer 4 of Choo et al. must be considered to be part of the photoelectric conversion process. (Indeed, in Applicants' view, layer 4 is the only element of Choo et al. that can reasonably be considered a photoelectric conversion element.) In this case, Choo et al. does not disclose "a first insulating layer, formed so as to cover a photoelectric conversion element" for the reasons set forth above,

namely, that elements 68 and 72 of Choo et al. (alleged to correspond to the claimed first insulating layer) are below layer 4 and cannot be considered to cover the photoelectric conversion element. Consequently, Choo et al. cannot anticipate claim 1 or claim 2 or the claims 5, 6, 8, 14, 15 and 17 that depend from one of the other of these claims.

The Advisory Action also contends that the TFT of Choo et al. has the same structure as the TFT shown in the subject patent application. Applicants traverse this characterization and respectfully submit in any event that the relationship of a structure disclosed in a reference to a structure disclosed in an example embodiment of a patent application is not determinative of whether that reference anticipates a pending claim of that patent application. Moreover, claims 1 and 2 each calls for a photoelectric conversion element, not a particular TFT structure. As explained above, Choo et al. does not disclose a photoconversion element arranged in the manner required by these claims.

Claims 3, 4, 18 and 21 were rejected under 35 U.S.C. Section 102(b) as allegedly being "anticipated" by Ikeda et al. (U.S. Patent No. 6,323,490).

The office action alleges with reference to Figure 69 that passivation layer 4310 and organic insulating film 4314 of Ikeda correspond to the claimed first insulating layer; that a-Si layer 4304, gate electrode 4309, stopper layer 4312, and source/drain layer 4316 correspond to the claimed photoconversion element; and capacitor electrode 4305, insulating film 4307 and source electrode 4315 correspond to the claimed pixel capacitor section. Pixel electrode 4311 is alleged to correspond to the claimed conductive layer and the thickness of the insulating layer 4310/4314 is alleged to be thinner in an area positioned on or above the pixel capacitor section than in other areas.

Here again, the TFT formed by a-Si layer 4304, gate electrode 4309, stopper layer 4312, and source/drain layer 4316 is not a photoelectric conversion element. As described in col. 38, line 22 et seq. of Ikeda et al., the TFT formed by elements 4316, 4312, 4309 and 4304 corresponds to a signal read TFT that operates to discharge a capacitor to a signal line in accordance with a gate electrode voltage. See Ikeda et al., col. 11, lines 16-25. Ikeda et al. appears to be similar to Choo et al. in that the pixel electrode 4311 is positioned below the photoconversion element (e.g., a selenium layer). See, e.g., Ikeda, Figures 3, 15 and 23.

Consequently, the nominal first insulating layer identified in the office action (i.e., layers 4310/4314) does not cover the photoelectric conversion element as required by claim 3.

Figure 3 of Ikeda et al. shows a dielectric layer above the X ray/charge conversion layer. However, there is no disclosure whatsoever of a thickness of this dielectric layer being thinner in areas on or above a pixel capacitor section as required by claim 3. Consequently, this dielectric layer cannot constitute the claimed first insulating layer.

For at least these reasons, Ikeda et al. cannot anticipate claim 3. Claims 4, 18 and 21 depend from claim 3 and likewise cannot be anticipated by Ikeda et al.

Claims 7, 16 and 20 were rejected under 35 U.S.C. Section 103(a) as allegedly being "obvious" over Choo et al. and Ikeda et al., further in view of Hamamoto et al. (U.S. Patent 6,800,836). Hamamoto et al. is applied in connection with claims 7, 16 and 20 for its alleged disclosure of a conversion layer that converts non-visible light into light. Hamamoto et al. does not remedy the deficiencies of Choo et al. and Ikeda et al. with respect to the independent claims and thus the proposed combination of these references would not result in the subject matter of claims 7, 16 and 20.

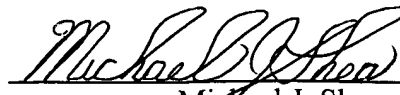
Claim 19 was rejected under 35 U.S.C. Section 103(a) as allegedly being "obvious" over Ikeda et al. in view of Choo et al. In particular, Choo et al. is combined with Ikeda et al. to allegedly provide the second insulating layer of claim 19. However, even assuming for the sake of argument that Ikeda et al. were to be provided with a second insulating layer, this would not remedy the deficiencies of Ikeda et al. with respect to claim 3, from which claim 19 depends.

For at least these reasons, Applicants respectfully submit that the rejections of the pending claims are improper and should be withdrawn.

Respectfully submitted,

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